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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,156	11/07/2005	Paolo Fella	P/63687	4718
156 7590 08/23/2007 KIRSCHSTEIN, OTTINGER, ISRAEL & SCHIFFMILLER, P.C. 489 FIFTH AVENUE NEW YORK, NY 10017			EXAMINER PARK, KINAM	
			ART UNIT 2828	PAPER NUMBER
			MAIL DATE 08/23/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/531,156	Applicant(s) FELLA ET AL.	
	Examiner Kinam Park	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-57 AND 84-93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-57 AND 84-93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/7/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I (claims 48-57 and 84-93) in the reply filed on 6/4/2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

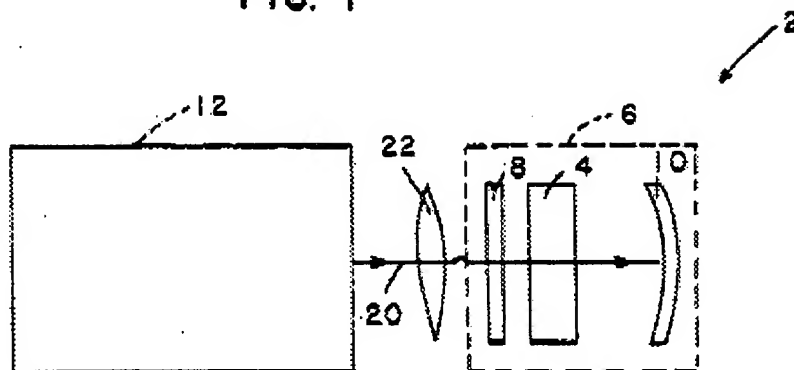
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 48-57 and 84-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thrash et al. (US 5299215) in view of Quimby et al. (cited as 2nd reference in NPL document of IDS, filed on 11/7/05).

Regarding **claim 48-49, 57, 84,**

Thrash et al. discloses in figure 1 and specification a pump source (12), a lasing material (4), erbium doped (see, col.2, lines 20-22) fiber (see, col.5, lines 41-48) (EDF), green light (see, col.1, lines 6-12).

FIG. 1



However, Thrash et al. is silent as to a GSA, ESA, and a majority of the pump signals having a wavelength at which a probability of occurrence of ESA in the EDF is greater than a probability of occurrence of GSA in the EDF.

Quimby et al. discloses in introduction and theory a GSA, ESA and the relation of probability of ESA and GSA.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the relation of ESA and GSA of Quimby et al. with a erbium doped fiber laser of Thrash et al. because this provides the method for IR upconversion pumping of visible laser (see, introduction of Quimby et al.).

While not explicitly stated as 60% of the pump signal (**claim 49, 85**), such is inherently contained in the operations described in discussion regarding the lasing at 550 nm, since it would be impossible for the EDF to operate in the manner described in discussion regarding the lasing at 550 nm, and elsewhere in the reference, absent being embodied on or in some form of 60% of the pump signal having a wavelength at

which a probability of occurrence of ESA in the EDF is greater than a probability of occurrence of GSA in the EDF.

Regarding **claim 50-51, 53-56, 86-93,**

Note that Thrash et al. discloses in figure 1 and specification the majority of the pump signals having a wavelength in a range between approximately 920 nm and approximately 980 nm (see, col.2, lines 35-39) (**claim 50, 86**) and in a region of 960 nm (see, col.2, lines 35-39) (**claim 51, 87**), a first direction of pump source (20 in figure 1) (**claim 53, 88**), a reflector (8, 10) (**claim 55**), a reflector at one of a first end (8) and a second end (10) of the EDF (**claim 56, 90-92**). Another pump source opposite to the first direction (**claim 54, 89**) is well known in this art since it provides more pumping energy to the EDF. The size of laser (**claim 93**) is insignificant in this art since the components such as optical fiber and diode laser are available to meet this requirement.

Regarding **claim 52,**

Note that Quimby et al. discloses in result and discussion a wavelength less than a crossover wavelength of an EDF GSA and ESA (see, also, figure 4 and 5) (**claim 52**).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


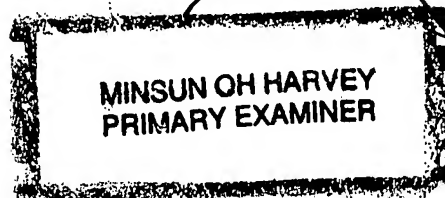
Itoh (US 6795460) discloses the laser device and an optical signal amplifier using thereof.

Kim et al. (US 5638394) discloses the blue and green laser oscillation method and device adopting the same.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kinam Park whose telephone number is (571) 270-1738. The examiner can normally be reached on from 9:00 AM-5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **MINSUN HARVEY**, can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KP

MINSUN OH HARVEY
PRIMARY EXAMINER